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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/600,712	10/18/2000	Ernest Appleton	UDL1P027	9109

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EXAMINER

COLE, LAURA C

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/600,712

Applicant(s)

APPLETON ET AL.

Examiner

Laura C Cole

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 11 July 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. A substitute specification excluding the claims is required pursuant to 37 CFR 1.125(a) because the paragraph on Page 2 Line 21 to Page 3 Line 7 of the Substitute Specification (Paper No. 9, received 11 July 2003) appears to have replaced the third paragraph (Line 22) on Page 2 of the original specification, however the change is not indicated.

A substitute specification filed under 37 CFR 1.125(a) must only contain subject matter from the original specification and any previously entered amendment under 37 CFR 1.121. If the substitute specification contains additional subject matter not of record, the substitute specification must be filed under 37 CFR 1.125(b) and (c)

Claim Objections

2. Claims 24-46 are objected to because of the following informalities:

Claim 24 Lines 6-7 there is not antecedent basis for “*the* corresponding said body) and it is confusing.

Claim 24 Line 9 there is not antecedent basis for “*the* respective first and/or second direction.” Furthermore, the “and/or” adds to the unclearness. What is this direction? Appropriate correction is required.

Claim 28 Line 3 is unclear as to what is meant by “*the* movement thereof.”

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 25-27 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 25 recites the limitation "said interconnected bodies" in Line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 26 recites the limitation "said interconnected bodies" in Line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 24, 25, 27-29, 39, 40, 43, and 47-48 are rejected under 35 U.S.C. 102(e) as being anticipated by Simpson, USPN 6,460,616.

Simpson discloses an apparatus that comprises a plurality of bodies (13, 14; or 81 to 86), at least one moving device for moving at least one pair of bodies towards and away from each other (17a-d and Column 4 Lines 30-39; or Column 7 Lines 19-27), a plurality of bristle-carrying members mounted on each of the bodies (71 to 76), a plurality of bristles (Figures 5a-7b), each bristle carrying member is adapted to be moved in a direction towards or away from the body (see hidden lines and axis shown in Figures 6a and 7a, Column 6 Lines 51 to 67), and at least one

Art Unit: 1744

fluid pressure device for moving the bristle carrying members in directions relative to a body (Column 7 Lines 19-27) wherein the moving device is adapted to cause the vehicle to traverse a surface by moving at least one pair of adjacent bodies towards and away from each other when bristles are in engagement with the surface (Column 6 Line 51 to Column 7 Line 18). The bodies are substantially flat and rotationally symmetrical (Figures 5a-7b). In use bristles of the bodies are inclined in alternate directions (Figures 5a-7b). The bristle carrying members combine to cover a surface of the body (Figures 5a-7b) and form an angular surface of the segment of the body (Figures 5b, 6b, 7b). The moving device is adapted to use electrical power (Claim 12 or Column 7 Line 23) or fluid pressure Column 7 Line 22). There are three or more bodies (Column 6 Lines 34-39).

5. Claims 24-26, 28-31, 34, 35, and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Moon, USPN 2,552,339.

Moon discloses a fluid propelled pipe line brush that comprises two rotationally symmetrical bodies (Figure 1, one body being a more “forward” body of bristle carriers (11) and bristles (35) and a second body in the rear of the first “forward” body defined also by carriers (11) and bristles (35)) interconnected by means to move the bodies towards and away from each other (Figure 1, shafts (2, 10); Figure 3; Column 4 Lines 25-31 disclose that that internal threaded rods may be adjusted which is considered to be a means of moving the bodies towards or away from each other) and a moving device being hydraulic (1, Column 4 Lines 12-16), each body supports a multiplicity of resilient bristles wherein the bristles extend generally radially (Figures 1 and 2 (35)), the bristles are mounted in groups (Figure 1 shows tufts of bristles (35) arranged in groups upon a backing (34)) upon a plurality of bristle carrying members (Figure 1

Art Unit: 1744

(11) and Figure 2) each guided for movement in directions towards and away from the body (Figure 1 (15) and Column 4 Lines 16-19), and fluid pressure means to effect movement of the bristle carrying members (Column 4 Lines 12-19, as (11) is moved in relationship to the hydraulic pressure exerted onto (1)). Moon also discloses that the bristle carrying members (11) cover the whole portion of the surface of the body and each form an angular segment of the surface of the generally cylindrical body (Column 2 Lines 41-46). The bristle carrier is guided by pins (Figure 2 (46, 47); Column 3 Line 70 to Column 4 Line 5) and has an inner membrane. Also, there is a resilient means of one or more springs (Column 4 Lines 16-19). The means to move the bodies towards and away from each other comprises fluid pressure (Column 4 Lines 16-19).

6. Claims 24-30, 42-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Thompson et al., USPN 1,608,347.

Thompson et al. discloses a pipe cleaning apparatus that comprises two and more rotationally symmetrical bodies (Figure 3, each body having its own plates (I)) interconnected by a device to move the bodies towards and away from each other (Figure 3 (D and E by way of G)), each body supports a multiplicity of resilient bristles (Figure 3 (H)) wherein the bristles extend generally radially (Figures 3) inclined in alternate directions radially (Figure 1), the bristles are mounted in groups (Figure 3) upon a plurality of bristle carrying members (Figure 1 (I)) each guided for movement in directions towards and away from the body (Figure 1 (H)), and one fluid pressure device to effect movement of the bristle carrying members (Column 2 Lines 88-93). Thompson et al. also discloses that the bristle carrying members (I) cover the whole portion of the surface of the body and each form an angular segment of the surface of the

Art Unit: 1744

generally cylindrical body (Figure 6; Column 4 Lines 67-74.) The bodies are supported by one or more wheels that are located on links between the bodies (Figures 1-3 (K)). The vehicle comprises three or more bodies wherein the bodies are coupled into pairs at Figures 1-3 (L) with each pair being a fixed distance apart (the distance is fixed in that (L) is not a flexible structure.) Also a control means (Column 6 Lines 81-101) exists to effect the relative movement of the bodies.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon, USPN 2,552,339 in view of Ver Nooy USPN 2,932,837.

Moon discloses elements as mentioned above, however does not disclose the use of pistons to apply movement to bristle-carrying members.

Ver Nooy discloses a conduit cleaning device with one body with cleaning elements (Figure 1 (26)) and cleaning element carriers (Figure 1 (32, 35, 36, 38, 40, 41)) that would be bristle carriers if cleaning elements were to be bristles. Each cleaning element carrier forms an angular segment of a generally cylindrical body (Figure 2.) Ver Nooy further discloses the use of hydraulic pistons (Figures 1 and 2 (40, 41); Column 5 Lines 13-29) as cleaning element carrying members.

Art Unit: 1744

It would have been obvious for one of ordinary skill in the art to replace the link of Moon with a piston so that pressure applied by the cleaning elements to the sides of the pipe may be controlled by the user so that in sensitive areas the cleaning will not be rough.

8. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moon, USPN 2,552,339 in view of Sharp et al., USPN 4,447,777.

Moon discloses all elements as mentioned above, however does not disclose a having sensors that monitor the characteristics of a surface.

Sharp et al. discloses a pipeline inspection vehicle that has sensors (Figure 1 (6)) for monitoring the flux, a characteristic, of the interior of a pipeline to sense leakage (Column 3 Line 55 to Column 4 Line 3.)

It would have been obvious to one of ordinary skill in the art to add sensors as Sharp teaches to Moon in order to sense a surface characteristic of a pipeline to prevent catastrophe or waste.

9. Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon, USPN 2,552,339 in view of Maness, USPN 3,310,113.

Moon discloses all elements as mentioned above, however does not disclose a specific material for the bristles (35.)

Maness discloses a well cleaner that uses steel bristles (Column 1 Lines 22-25; Column 2 Lines 61-62) for the cleaning and abrading of a pipe.

It would have been obvious for one of ordinary skill in the art at the time the invention was made for Moon to employ the bristles of Maness since it has been held within the general

Art Unit: 1744

skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious engineering choice. In re Leshin, 125 USPQ 416.

10. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moon, USPN 2,552,339 in view of Hapstack, USPN 5,018,451.

Moon discloses all elements as mentioned above, however does not disclose specific moving devices to move bodies towards or away from each other such as a hydraulic or pneumatic cylinder.

Hapstack discloses an extendable pipe crawler that uses pneumatic cylinders controlled by electricity in order to connect two cleaning bodies (Figures 1 and 2; Column 2 Line 60 to Column 3 Line 8.)

It would have been obvious to one of ordinary skill in the art to use the pneumatic cylinder that Hapstack teaches in place of the spring in cooperation with the hydraulic device (1) in order to move the device along so that debris from the surface will not clog or jam required movement of the vehicle.

11. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al., USPN 1,608,347 in view of Hapstack, USPN 5,018,451.

Thompson et al. discloses all elements as mentioned above, however does not disclose means to move bodies towards or away from each other as electrical or fluid pressure.

Hapstack discloses an extendable pipe crawler that uses pneumatic cylinders controlled by electricity in order to connect two cleaning bodies (Figures 1 and 2; Column 2 Line 60 to Column 3 Line 8, where in the electrical power is the same as the power supply of Column 3 Line 4.)

It would have been obvious to one of ordinary skill in the art to substitute means of how the bodies are moved so that debris will not clog or jam required movement of the vehicle.

12. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al., USPN 1,608,347 in view of Von Arx, USPN 3,525,111.

Thompson et al. disclose all elements as mentioned above including an end of the shaft (G), however does not disclose an umbilical line.

Von Arx discloses an apparatus for treating the inner wall surface of a duct that includes two generally cylindrical bodies that move away from each other radially. Also, Von Arx discloses an umbilical line or cable (Figure 7 (550)) that is used to pull the entire device over frictional surfaces or uphill, Column 5 Lines 23-25.

It would have been obvious to one of ordinary skill in the art to attach a cable or umbilical line as Von Arx teaches to the shaft of Thompson et al. so that the device may be controlled, guided, and moved by a user.

13. Claims 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simpson, USPN 6,460,616 in view of Ver Nooy, USPN 2,932,837.

Simpson discloses all elements above, however does not provide a pneumatic cylinder as the mechanism for radially moving at least one of the bristle-carrying members.

Ver Nooy discloses all elements above, further including that cylinders (38) are pneumatic (Column 5 Lines 37-46).

It would have been obvious for one of ordinary skill in the art to substitute the hydraulic means of Simpson for the pneumatic cylinders of Ver Nooy as it is well known in the art and is an economical method of providing pressure and releasing it.

Applicants Arguments

14. In the response of 11 July 2003, Paper No. 9, Applicant argues that:

A. Moon has no means for self propulsion.

B. Moon does not use fluid pressure.

C. Thompson et al. do not provide a means for self propulsion.

D. Neither Thompson et al. nor Moon teach a device that can move itself against the flow of fluid in a pipe or change the direction of travel, a traction propulsion mechanism, or fluid pressure means.

E. Only Hapstack was invented within a decade of the present invention.

Response to Arguments

15. Applicant's arguments filed 11 July 2003 have been fully considered but they are not persuasive.

Arguments A., C., and D:

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., self propulsion, a device that can move itself against the flow of fluid in a pipe or change the direction of travel, or a traction propulsion mechanism) are not recited in the rejected claim(s).

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Argument B:

Art Unit: 1744

As mentioned above, Moon *does* use fluid pressure. Column 4 Lines 9-19 describe how Moon operates, and in Line 13 begins to discuss how the disc (1) “serves as a means for transmitting force of the fluid under pressure...to propel it through the pipe line.” Merriam Webster’s Collegiate Dictionary Tenth Edition defines “hydraulic” as “operated, moved, or effected by means of water” or “relating to water or other liquid in motion.”

Argument D relating to Thompson:

As mentioned above, Thompson et al. do use fluid pressure. Column 2 Lines 88-93 describe how Thompson et al. operate and disclose that the plunger “may act to propel the several units of the cleaning device through a pipe or tube” Merriam Webster’s Collegiate Dictionary Tenth Edition defines “hydraulic” as “operated, moved, or effected by means of water” or “relating to water or other liquid in motion.”

Argument E:

In response to applicant's argument based upon the age of the references, contentions that the reference patents are old are not impressive absent a showing that the art tried and failed to solve the same problem notwithstanding its presumed knowledge of the references. See *In re Wright*, 569 F.2d 1124, 193 USPQ 332 (CCPA 1977).

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 1744

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

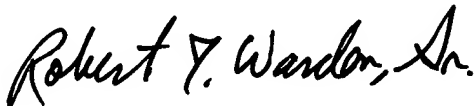
17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C Cole whose telephone number is (703) 305-7279. The examiner can normally be reached on Monday-Thursday, 7am - 4:30pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Warden can be reached on (703) 308-2920. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

LCC
LCC

21 August 2003


ROBERT J. WARDEN, SR.
SUPERVISORY PATENT EXAMINER
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